

CLAIMS

1. A pharmaceutical formulation comprising insulin and glucagon in amounts therapeutically effective for the control of diabetes and the prevention of hypoglycemia in a human or other mammal.
2. A method of treating diabetes in a human or other mammal, said method comprising the steps of administering insulin in an amount therapeutically effective for the control of diabetes and administering glucagon in an amount therapeutically effective for the prevention of hypoglycemia, wherein said administering steps are conducted within twelve hours of each other.
3. The method of claim 2, wherein said insulin and glucagon are administered separately.
4. The method of claim 2, wherein insulin and glucagon are administered within one minute to four hours of each other.
5. A method of preventing hypoglycemia in a diabetes patient who is being treated with insulin and who is not suffering hypoglycemic symptoms, which method comprises administering glucagon to said patient in an amount therapeutically effective for the prevention of hypoglycemia.
6. The method of claim 5, wherein said glucagon is administered simultaneously with, or within one minute to four hours after said patient has last been administered insulin.
7. An infusion pump containing both insulin and glucagon.
8. The method of Claim 2, wherein said insulin is administered parenterally and said glucagon is administered by a route of administration selected from the group consisting

of oral administration, ocular administration, nasal administration, pulmonary administration, parenteral administration, and transdermal administration.

9. The method of Claim 8, wherein said glucagon is administered transdermally.
10. The method of Claim 8, wherein said glucagon is a glucagon with a longer duration of action.
11. The method of Claim 2, comprising administering a formulation comprising both insulin and glucagon.
12. The method of Claim 8, wherein said glucagon is contained in a liposomal formulation.
13. The method of Claim 8, wherein said glucagon is contained in a microsphere.
14. The method of Claim 2, wherein said insulin is administered by a route of administration selected from the group consisting of parenteral administration, oral administration, ocular administration, nasal administration, pulmonary administration, and transdermal administration, and said glucagon is administered by a route of administration selected from the group consisting of parenteral administration, oral administration, ocular administration, nasal administration, pulmonary administration, and transdermal administration.
15. The method of Claim 14, wherein said both insulin and glucagon are administered parenterally.
16. The method of Claim 15, wherein said insulin and glucagon are contained in a pump that controls administration of a drug to a patient.